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REMARKS

Claims 1-145 are currently pending in this application. The Examiner has required a restriction of the pending claims to one of the following groups:

- Group I: Claims 1-19, 30, 35, 37, 39, 41, 43, 45, 50, 53, 54, 57, 80, and 139, drawn to a method of detecting an oxidation enzyme;
- Group II: Claims 20-29, 31-34, 36, 38, 40, 42, 44, 46-49, 51, 52, 55, 56, 64, and 81, drawn to a method of detecting an oxygenase enzyme;
- Group III: Claims 58-63, 82, and 96, drawn to a method of detecting an oxygenase enzyme comprising the absence of one or more of its coenzymes or ancillary proteins;
- Group IV: Claims 65-79, 83-87, and 97, drawn to a method for evaluating a test enzyme;

- Group V: Claims 88-95, 98-106, drawn to a method of screening for oxygenase enzymes;
- Group VI: Claims 107-125, 130-131, 133-136, drawn to an oxygenase enzyme variant;
- Group VII: Claims 126-129, drawn to a method for evolving an oxidation enzyme;
- Group VIII: Claim 132, drawn to a method for evaluating the reaction conditions for an oxidation catalyst; and
- Group IX: Claims 137-138, 140-145, drawn to a method for detecting an oxidation catalyst.

The Examiner has further required election of specific species to which the pending claims shall be restricted if no generic claim is finally held to be allowable. In particular, the Examiner has required election of a single member from each of the following species groups, reading on the specified claims:

- (A) Organic substrate (claim 6, 17, 21, 47, 71, 77, 95, and 138);
- (B) Coupling enzyme (claim 14, 18, 23, 47, 95, and 142);
- (C) Oxygenase enzyme (claims 28-31);
- (D) Test enzyme (claims 37, 38, 48, and 92);
- (E) Coenzyme (claims 53, 55, 59, and 64);
- (F) Cofactor (claim 62); and
- (G) Variant/mutant enzyme (claim 70).

In order to be fully responsive to the Requirement for Restriction, Applicants hereby provisionally elect, with traverse, to prosecute the claims of Group VI (claims 107-125, 130-131, and 133-136) drawn to oxygenase enzyme variants.

Although Applicants are making the above election to be fully responsive to the Requirement for Restriction, Applicants respectfully traverse the Requirement and reserve the right to petition therefrom under 37 C.F.R. § 1.144. In particular, Applicants respectfully request reconsideration of the Restriction Requirement or, in the alternative, modification of the Requirement to allow prosecution of more than one of the above groups and/or species.

Under Patent Office examining procedures, "if the search and examination of an entire application can be made without serious burden, the Examiner must examine it on the merits, even though it includes claims directed to distinct or individual inventions." See, M.P.E.P. § 803 (emphasis added). In addition, 37 C.F.R. § 1.141 states in part that:

more than one species of invention may be specifically claimed in different claims of one national application, provided the application also includes an allowable claim generic to all the claimed species and all the claims to species in excess of one are written in dependent form or otherwise include all the limitations of the generic claim.

The groups of claims designated by the Examiner (*i.e.*, Groups I-IX, *supra*) do not define methods which are distinct or which warrant separate examination and searches. In particular, this is the case for groups I-V and VII-IX. The subject matter of the claims in these groups represent a web of knowledge and continuity of effort that merits examination in a single application.

The assay steps of these claim groups all comprise the use of an organic substrate, an oxygen donor, and a coupling enzyme, and all methods comprise the step of testing for a detectable composition. Further, the methods set forth in claim groups I-V and VIII-IX are all directed to oxidation catalyst assays. Notably, oxidation enzymes (group I) and oxygenase enzymes (groups II, III, and V) are mere subgroups of the oxidation catalysts called for in claim groups VIII and IX. Moreover, the method set forth in claim group III, *i.e.*, detection of an enzyme in the absence of its co-enzymes or ancillary proteins, is directed to one embodiment of the method set forth in, *e.g.*, claim group I, and cannot be viewed as a separate invention. In addition, the pending claims are not directed to more than a reasonable number of species, as discussed below. Accordingly, it is believed that the rejoinder and examination of claim groups I-V and VII-IX would not place an undue burden on the Examiner.

Solely to be responsive to the requirement for election, Applicants hereby elect the following species:

group A (organic substrate): naphtalene;

group B (coupling enzyme): horseradish peroxidase;

groups C, D, and G (oxygenase enzyme, test enzyme, and variant/mutant enzyme): cytochrome P450 oxygenase;

group E (coenzyme): NADH; and

group F (cofactor): delta-aminolevulinic acid (ALA).

Claims 6, 14, 17, 18, 21, 23, 30, 31, 37, 38, 47, 48, 53, 55, 59, 62, 64, 70, 71, 77, 92, 95, 138 and 142, read on the elected species. Claims 1, 20, 58, 65, 88, 107, 126, 132, and 137 are generic. Applicants note that upon allowance of a generic claim, they will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of the allowed generic claim.

In view of the above reasons, Applicants respectfully requests withdrawal of the Requirement for Restriction as applied to claim groups I-V and VIII-IX. Rejoinder would result in the following groups for restriction purposes:

Group 1. Claims 107-125, 130-131, 133-136, drawn to an oxygenase enzyme variant;

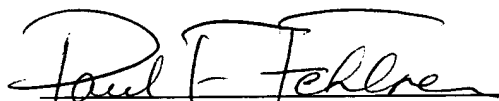
Group 2. Claims 1-106, 126-129, 132, 137-145, drawn to a method for detecting an oxidation catalyst, which method comprises an organic substrate, an oxygen donor, and a coupling enzyme.

Of these two claim groups, Applicants have elected Group 1, corresponding to claims 107-125, 130-131, and 133-136.

The Examiner is invited to contact Applicants' representative at the telephone number given below if he or she believes that the rejoinder of a different set of claims groups is appropriate, or if he or she believes that it would advance prosecution of this application.

Examination of all of the pending claims is respectfully requested.
Examination and allowance of all of the pending claims is earnestly sought.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul F. Fehlner". The signature is written in a cursive, flowing style with a large initial "P" and "F".

Paul F. Fehlner, Ph.D.

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